Guidehouse

C&I and PS RetroCommissioning Program Impact Evaluation Report

Energy Efficiency Plan: Program Year 2025

(01/01/2025-12/31/2025)

Prepared for:

Peoples Gas and North Shore Gas

PEOPLES GAS® | NORTH SHORE GAS®

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1 Introduction

This report presents the results of the impact evaluation of the Peoples Gas (PGL) and North Shore Gas (NSG) 2025 Commercial and Industrial (C&I) and Public Sector (PS) Retro-Commissioning (RetroCommissioning) program. It presents a summary of the energy impacts for the total program and broken out by relevant measure and program structure details. The appendices present the impact analysis methodology, detailed results, and inputs. Program year 2025 covers January 1 to December 31, 2025.

The 2025 RetroCommissioning program is offered jointly to customers served by ComEd, Nicor Gas, PGL, and NSG. This report presents the results of the impact evaluation for PGL and NSG.

2 Program Description

The RetroCommissioning program has been part of ComEd's Energy Efficiency program portfolio since 2007. In 2010, ComEd began coordinating the program with the gas utilities that also serve ComEd customers. ComEd manages and funds the program, and the gas utilities have the option to share the program costs and savings with ComEd on a project-by-project basis. The overlapping gas territories include Nicor Gas, Peoples Gas, and North Shore Gas.

The RetroCommissioning program helps commercial, industrial, and public sector customers improve the energy performance of their facilities through systematic analysis of existing building systems. Program-qualified energy efficiency service providers (EESPs) recruit participants, conduct energy studies, and recommend energy saving measures. EESPs are required to verify implemented projects and measures before the project is considered complete. A single implementation contractor verifies, tracks, and reports savings for the coordinating utilities.

Generally, the program pays 100% for a detailed study, contingent on a participant's commitment to spend a defined amount of its own funds implementing study recommendations with a simple payback of 18 months or less. In CY2025, this component consisted of two tracks: Monitoring-Based Commissioning (MBCx), and RetroCommissioning Flex (RCx).

- **MBCx** projects are supported by a multiyear agreement between the building owner and the EESP. This approach identifies, analyses, implements, and verifies multiple bundles of measures on a rolling basis with the EESP monitoring building automation system (BAS) data periodically using integrated, program-installed software to document ongoing savings. Measure savings are counted toward program goals in the calendar year they are submitted based on EESP monitoring since the prior submitted savings. In 2025, PGL implemented two MBCx projects.
- **RCx** projects generally last 6-15 months and include a fully funded RCx Flex study covering the costs of engineering services and additional performance-based incentives. To receive the study, participants must agree to implement mutually agreed upon energy conservation measures with a simple payback of 1.5 years or less. In 2025, NSG implemented one RCx project.

Table 1 and Table 2 show the participant and project count for the PGL and NSG RCx programs in 2025. Peoples Gas had completed two projects and North Shore Gas completed one project in 2025.

Table 1. 2025 Volumetric Summary for PGL

Participation	Total
Private Sector	
Participants *	2
Installed Projects †	2

** Participants are defined by unique Account Name*
† Installed Projects are defined as unique project and bundle combination
Source: Peoples Gas tracking data and evaluation team analysis.

Table 2. 2025 Volumetric Summary for NSG

Participation	Total
Private Sector	
Participants *	1
Installed Projects †	1

** Participants are defined by unique Account Name*
† Installed Projects are defined as unique project and bundle combination
Source: North Shore Gas tracking data and evaluation team analysis.

3 Program Savings Detail

Table 3 summarizes the energy savings the PGL RetroCommissioning Program achieved in 2025.

Table 3. 2025 Annual Energy Savings Summary for PGL

Program Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms	NTG†	Verified Net Savings (Therms)
Private, Non-Disadvantaged Communities	247,246	103%	253,923	0.86	218,374
Total	**247,246**	**103%**	**253,923**	**0.86**	**218,374**

** Realization Rate (RR) is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.*
† NTG, Net to Gross is the deemed value available on the SAG website: https://www.ilsag.info/evaluator-ntg-recommendations-for-2025/.
Source: Evaluation team analysis

Table 4 summarizes the energy savings the NSG RetroCommissioning Program achieved in 2025.

Table 4. 2025 Annual Energy Savings Summary for NSG

Program Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms	NTG†	Verified Net Savings (Therms)
Private, Non-Disadvantaged Communities	5,990	103%	6,152	0.86	5,291
Total	**5,990**	**103%**	**6,152**	**0.86**	**5,291**

** Realization Rate (RR) is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.*
† NTG, Net to Gross is the deemed value available on the SAG website: https://www.ilsag.info/evaluator-ntg-recommendations-for-2025/.
Source: Evaluation team analysis.

4 Program Savings by Measure

The savings for this program are reported at the project-level and are not reported for the individual measures.

5 Impact Analysis Findings and Recommendations

The 2025 realization rate for the gas savings in the RetroCommissioning program for both Peoples Gas and North Shore Gas was 103%. In general, the evaluation team did not find any systemic concerns resulting in large adjustments to project-level ex ante gross savings.

Finding 1. For 24-0019, Bundle #2, the evaluation team identified inconsistencies in the application of fan speed assumptions within the custom ex ante calculation. Fan speed was appropriately applied in the fan power calculation but was not accurately reflected in the heating and cooling energy savings calculations, resulting in an inconsistent savings methodology for the measure. This project represents 2% of ex ante therms savings for the Small – Gas strata and has a gross therms realization rate of 65%.

> **Recommendation 1.** Reinforce quality control practices for custom calculations to ensure that key operational assumptions, such as fan speed, are applied consistently across all affected end uses. Verify internal consistency within custom models so that inputs influencing fan power are also reflected in the associated heating and cooling energy calculations, improving the accuracy and defensibility of claimed savings.

Finding 2. For 23-0008, Bundle #7, the measure was submitted with limited baseline data as the control failure was corrected shortly after it was identified. As a result, the available data did not capture equipment operation across a sufficient range of ambient conditions, making it difficult to reliably characterize how the failure would have affected energy use throughout the year. The ex ante savings estimates relied on extrapolation from this limited dataset and did not account for the partial benefits from the leaking cooling valve at higher ambient temperatures, which ultimately overstated savings. The

evaluation team corrected the extrapolation to account for system performance across all operating conditions. This project represents 31% of ex ante therms savings for the Medium – Gas strata and has a gross therms realization rate of 70%.

This highlights the risk of developing savings estimates from datasets that do not adequately represent the full range of expected operating conditions.

Recommendation 2. Strengthen program guidance and quality control procedures to ensure that sufficient baseline data is collected before developing savings estimates, particularly when extrapolation is required. In cases where the baseline data is limited, the program team should require either additional data collection or the use of conservative assumptions that account for uncertainty. Ensuring that datasets span a representative range of operating conditions will improve the accuracy and defensibility of extrapolated savings estimates.

Finding 3. In CY2025, the evaluation team observed improved adherence to weather station selection guidelines across most RCx projects; however, occasional instances of incorrect weather station selection in the ex ante savings estimates persist. For these projects, the evaluation team updated the weather station to ensure savings were normalized using weather data that most accurately represents site conditions.

- **24-0019 Bundle #2, ECM 5**. The evaluation team updated the weather station to Waukegan TMYx 2007-2021, which was more representative of the project location. This project represents 2% of ex ante therms savings for the Small – Gas strata and has a gross therms realization rate of 65%.
- **23-0008 Bundle #7, ECM 8**. The evaluation team updated the weather station from the originally selected station to Meigs/Northerly Island TMYx 2007-2021 to better reflect local conditions. This project represents 31% of ex ante therms savings for the Medium – Gas strata and has a gross therms realization rate 70%.

Recommendation 3. Maintain and reinforce program guidance on weather station selection by implementing targeted quality control checks to confirm that the most appropriate and proximate TMYx 2007-2021 weather station is used for each project. Emphasis should be placed on verifying weather station choices during initial savings development to minimize the need for evaluator corrections and ensure consistency and accuracy in normalized savings estimates.

Appendix A. Impact Analysis Methodology

Ex Ante Estimates

The EESPs estimated ex ante energy savings with custom algorithms, frequently using hourly weather data and time-series trend data applied in engineering relationships of energy, temperature, and mass transfer. Alternatively, when data supported the method, EESPs determined savings by regressions of utility-metered energy use versus outdoor temperature and other independent variables. When energy efficiency measures had a climate related component, service providers used standard weather data sets (typical meteorological year, or TMY)[1] for proximal locations to estimate weather-normalized savings.

Evaluation Methods

The evaluation team used a stratified random sampling approach to select the gross impact sample, which included projects for customers served by ComEd, Nicor Gas, Peoples Gas, and North Shore Gas. In 2025, the evaluation team reviewed 23 projects[2] (39% of the total), 13,868 MWh (73% of the total claimed), and 524,911 therms (78% of the total claimed). The team sorted projects based on the level of ex ante kWh savings and presence or absence of therms savings and then placed the projects into six strata. Within each stratum, the team selected a random sample of projects for analysis. In 2025, 11 of the 27 projects with gas savings in the population were served by PGL as their gas utility. Gas savings for two of these 11 projects were claimed by PGL as shown in Table 8. Similarly, NSG claimed gas savings for the only project with gas savings in the population served by NSG as shown in Table 9.

The evaluation team reviewed each sampled project and its measures individually to validate the savings, usually using the same methods as the ex ante estimate. Projects were selected from the population of completed projects, inclusive of all participating utilities. Savings calculation reviews ensured the savings estimates were accurately modeled, used consistent inputs, and included reasonable assumptions, as required. In some cases, the team acquired additional trend data or interval meter data to verify savings with more data and data concurrent with expected savings (e.g., winter data for winter measures). In most cases, the impact evaluation involved analysis of time-series trend and measured data both pre and post implementation. In all cases, the evaluation team normalized savings estimates to TMYx 2007-2021[3] weather data to minimize the effects of atypical weather variation.

For a nested sample of projects (selected from projects sampled for engineering review), Guidehouse performed onsite inspections to determine whether implemented measures were still operating as

[1] A TMY data set provides an annual data set at the hourly level that typify weather conditions for a certain location over a long period of time (e.g., 30 years)

[2] The evaluation team reviewed 30 individual sample points because the team randomly selected multiple bundles for four projects in CY2025.

[3] https://climate.onebuilding.org/WMO_Region_4_North_and_Central_America/USA_United_States_of_America/index.html#IDIL_Illinois-

described in project documentation (setpoints, affected equipment, hours of operation, etc.). For projects not selected for an onsite inspection, evaluators supplemented desk reviews with phone interviews with building operators and reviewed BAS via remote connection or teleconferencing.

In cases where the evaluation team's verified inputs were inconsistent with EESP reported data, such as setpoints or operational hours, the team re-estimated savings with available data, additional data requested from the participant or EESP, or program guideline inputs.

Table 5 shows a profile of the sample selection which included projects for customers served by ComEd, Nicor Gas, Peoples Gas, and North Shore Gas.

Table 5. Profile of Gross Impact Sample for RCx Projects

Population Summary				Sample Summary		
Program	Sampling Strata	Number of Projects (N)	Ex Ante Gross Savings (Therms)	n	Ex Ante Gross Savings (Therms)	Sampled % of Population (% Therms)
RetroCommissioning	Large	4	-	4	-	N/A
	Large – Gas	1	3,839	1	3,839	100%
	Medium	7	-	4	-	N/A
	Medium – Gas	5	256,414	4	238,507	93%
	Small	35	-	9	-	N/A
	Small – Gas	24	414,263	8	282,565	68%
TOTAL		**76**	**674,516**	**30**	**524,911**	**78%**

Note: This table includes gas savings from all projects reported in CY2025. This includes projects for customers served by ComEd, Nicor Gas, Peoples Gas, and North Shore Gas.

Source: Evaluation team analysis.

Savings Rollup

There are two basic statistical methods for combining individual gross realization rates from the sample projects into an estimate of verified gross kWh savings for the population when using stratified random sampling: separate and combined ratio estimation.[4] In the case of a separate ratio estimator, a separate gross kWh savings realization rate is calculated for each stratum and then combined. In the case of a combined ratio estimator, the evaluation completes a single gross kWh savings realization rate calculation without first calculating separate gross realization rates by stratum.

The evaluation team used the separate ratio estimation technique to estimate verified gross impacts for the RetroCommissioning component. The separate ratio estimation technique follows the steps outlined in the

[4] A full discussion and comparison of separate versus combined ratio estimation can be found in *Sampling Techniques* (Cochran, 1977), pp. 164-169.

California Evaluation Framework,[5] which identifies best practices in program evaluation. The team matched these steps to the stratified random sampling method it used to create the sample for the component.

Consistent with the stratified random sampling approach, the evaluation team rolled up the savings to the entire population, which included projects for customers served by ComEd, Nicor Gas, Peoples Gas, and North Shore Gas using the stratum-level realization rate. The program-level gas savings for each utility were then calculated as the total of the project-level verified savings for all projects claimed by that gas utility in the program year.

Appendix B. Impact Analysis Detailed Results

Table 6 provides the ex ante and verified gas savings for each stratum. This table includes gas savings from all projects evaluated in CY2025. This includes projects for customers served by ComEd, Nicor Gas, Peoples Gas, and North Shore Gas.

Table 6. 2025 Gas Savings by Strata (All Projects)

Strata	Sample Size	Ex Ante Gross Savings (Therms)	Verified Gross Realization Rate*	Verified Gross Savings (Therms)
Large	4	0	N/A	0
Large - Gas	1	3,839	97%	3,709
Medium	4	0	N/A	0
Medium - Gas	4	238,507	89%	211,872
Small	9	0	N/A	0
Small - Gas	8	282,565	103%	290,195
Total	**30**	**524,911**	**96%**	**505,776**

Note: This table includes gas savings from all projects reported in CY2025. This includes projects for customers served by ComEd, Nicor Gas, Peoples Gas, and North Shore Gas.

** The realization rate is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.*

Source: Evaluation team analysis.

Table 7 details the verified gas savings and realization rates for all sampled gas projects.

Table 7. 2025 Gas Savings by Project (All Sampled Projects)

Project ID	Bundle #	Strata	Ex Ante Gross Savings (Therms)	Verified Gross Realization Rate*	Verified Gross Savings (Therms)
22-0010	Bundle #24	Medium - Gas	136,718	100%	136,831
22-0010	Bundle #20	Small - Gas	133,364	109%	145,513

[5] Tec Market Works, *The California Evaluation Framework*, prepared for the California Energy Commission, June 2004, available at http://www.calmac.org.

Project ID	Bundle #	Strata	Ex Ante Gross Savings (Therms)	Verified Gross Realization Rate*	Verified Gross Savings (Therms)
23-0008	Bundle #6	Small - Gas	113,882	100%	113,882
23-0008	Bundle #7	Medium - Gas	74,412	70%	51,781
23-0004	Bundle #1	Medium - Gas	20,454	100%	20,454
24-0046	Bundle #1	Small - Gas	15,360	100%	15,360
23-0042	Bundle #1	Small - Gas	8,381	83%	6,944
22-0010	Bundle #23	Medium - Gas	6,923	41%	2,805
24-0019	Bundle #2	Small - Gas	5,990	65%	3,901
22-0066	Bundle #1	Small - Gas	3,968	75%	2,972
25-0031	Bundle #1	Large - Gas	3,839	97%	3,709
20-0036	Bundle #13	Small - Gas	1,654	100%	1,657
22-0063	Bundle #1	Small - Gas	-34	101%	-34

Note: This table includes gas savings from all projects evaluated in CY2025. This includes projects for customers served by ComEd, Nicor Gas, Peoples Gas, and North Shore Gas.

Note: Participants can submit multiple bundles at different times during the year. Each project bundle submitted in CY2025 was counted as one project for impact evaluation sampling purposes.

** The realization rate is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.*

Source: Evaluation team analysis.

Table 8 and Table 9 show the strata classification and ex ante and verified gas savings for projects claimed by Peoples Gas and North Shore Gas in 2025, respectively.

Table 8. 2025 Gas Savings by Project (Peoples Gas Projects Only)

Project ID	Bundle #	Strata	Ex Ante Gross Savings (Therms)	Verified Gross Realization Rate*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
22-0010	Bundle #20	Small – Gas	133,364	103%	136,965	0.86	117,790
23-0008	Bundle #6	Small – Gas	113,882	103%	116,957	0.86	100,583
Total			**247,246**	**103%**	**253,923**		**218,374**

** The realization rate is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.*

† NTG, Net to Gross is the deemed value available on the SAG website: https://www.ilsag.info/evaluator-ntg-recommendations-for-2025/.

Source: Evaluation team analysis.

Table 9. 2025 Gas Savings by Project (North Shore Gas Projects Only)

Project ID	Bundle #	Strata	Ex Ante Gross Savings (Therms)	Verified Gross Realization Rate*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
24-0019	Bundle #2	Small – Gas	5,990	103%	6,152	0.86	5,291
Total			**5,990**	**103%**	**6,152**		**5,291**

** The realization rate is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.*
† NTG, Net to Gross is the deemed value available on the SAG website: https://www.ilsag.info/evaluator-ntg-recommendations-for-2025/.
Source: Evaluation team analysis.

Table 10 shows the strata classification, ex ante gas savings, gas utility and whether the savings were claimed by the gas utility through cost share for all projects with gas savings in 2025.

Table 10. 2025 Gas Savings by Project (All Reported Projects)

Project ID	Bundle #	Strata	Ex Ante Gross Savings (Therms)	Gas Utility	Savings Claimed By Gas Utility / Gas Cost Share
22-0066	Bundle #1	Small - Gas	3,968	Nicor Gas	Yes
23-0004	Bundle #1	Medium - Gas	20,454	Nicor Gas	Yes
23-0047	Bundle #2	Small - Gas	365	Nicor Gas	Yes
24-0016	Bundle #1	Small - Gas	839	Nicor Gas	No
24-0019	Bundle #2	Small - Gas	5,990	North Shore Gas	Yes
24-0023	Bundle #1	Medium - Gas	17,907	Peoples Gas	No
24-0046	Bundle #1	Small - Gas	15,360	Nicor Gas	Yes
24-0054	Bundle #1	Small - Gas	27,685	Peoples Gas	No
24-0054	Bundle #2	Small - Gas	41,588	Peoples Gas	No
24-0070	Bundle #1	Small - Gas	4	Peoples Gas	No
18-113	Bundle #2	Small - Gas	3,218	Nicor Gas	Yes
18-113	Bundle #3	Small - Gas	1,461	Nicor Gas	Yes
20-0034	Bundle #3	Small - Gas	434	Nicor Gas	No
20-0035	Bundle #4	Small - Gas	63	Nicor Gas	No
20-0036	Bundle #12	Small - Gas	1,351	Nicor Gas	Yes
20-0036	Bundle #13	Small - Gas	1,654	Nicor Gas	Yes
20-0036	Bundle #14	Small - Gas	2,663	Nicor Gas	Yes
22-0010	Bundle #20	Small - Gas	133,364	Peoples Gas	Yes
22-0010	Bundle #23	Medium - Gas	6,923	Peoples Gas	No
22-0010	Bundle #24	Medium - Gas	136,718	Peoples Gas	No
23-0008	Bundle #6	Small - Gas	113,882	Peoples Gas	Yes
23-0008	Bundle #7	Medium - Gas	74,412	Peoples Gas	No
23-0042	Bundle #1	Small - Gas	8,381	Peoples Gas	No
24-0025	Bundle #1	Small - Gas	6,486	Nicor Gas	Yes
24-0053	Bundle #1	Small - Gas	39,936	Nicor Gas	No
25-0026	Bundle #1	Small - Gas	5,769	Peoples Gas	No
25-0031	Bundle #1	Large - Gas	3,839	Nicor Gas	No

Note: This table includes gas savings from all projects reported in CY2025. This includes projects for customers served by ComEd, Nicor Gas, Peoples Gas, and North Shore Gas.
Note: Participants can submit multiple bundles at different times during the year. Each project bundle submitted in CY2025 was counted as one project for impact evaluation sampling purposes.
Source: Evaluation team analysis.

Appendix C. Program Specific Inputs for the Illinois TRC

Table 11 and Table 12 show the Total Resource Cost (TRC) cost-effectiveness analysis inputs available at the time of producing this impact evaluation report. Additional required cost data (e.g., measure costs, program level incentive and non-incentive costs) are not included in these tables and will be provided to the evaluation team later. Guidehouse will include annual and lifetime water savings and greenhouse gas reductions in the end of year summary report.

Table 11. Verified Cost Effectiveness Inputs - PGL

Program Category	Savings Category	DAC Project	Units	Quantity	Effective Useful Life	Early Replacement Flag†	Verified Gross Annual Water Savings (Gallons)	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Private	RetroCommissioning Project	FALSE	Project	2	8.6	NO	-	247,246	253,923	218,374
Total or Weighted Average					**8.6**		**-**	**247,246**	**253,923**	**218,374**

Source: Evaluation team analysis.

Table 12. Verified Cost Effectiveness Inputs – NSG

Program Category	Savings Category	DAC Project	Units	Quantity	Effective Useful Life	Early Replacement Flag†	Verified Gross Annual Water Savings (Gallons)	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Private	RetroCommissioning Project	FALSE	Project	1	8.6	NO	-	5,990	6,152	5,291
Total or Weighted Average					**8.6**		**-**	**5,990**	**6,152**	**5,291**

Source: Evaluation team analysis.